

## CLAIMS

What is claimed is:

1. A method of processing color image data, comprising:
  - 2 (a) examining a color component of a pixel in the image;
  - (b) selectively applying a tone map to the color component of the pixel

4 to create an output color component only when the color component is not in a dark area of the image.
2. The method of claim 1, further comprising:
  - 2 repeating steps (a) and (b) for essentially each pixel in the image.
3. The method of claim 1, further comprising:
  - 2 blending the transition between pixels in the image that are in a dark area and pixels in the image that are not in a dark area.
4. The method of claim 1 where the tone map is using a gamma correction curve.
5. A method of processing color image data contained in an array of pixels, comprising:
  - selecting at least one threshold;
  - (a) reading a color component of a pixel;
  - (b) transforming the color component of the pixel with a tone map

when the color component of the pixel is greater than the threshold and otherwise preserving the color component.

6. The method of claim 5, further comprising:

2           repeating steps (a) and (b) for essentially each pixel in the array.

7. The method of claim 6 where steps (a) through (b) are repeated to create a new

2           output color component for each of the color components in the color image.

8. The method of claim 7 where a different threshold is used to create each output

2           color component in the color image.

9. The method of claim 7 where there are different tone maps for creating each

2           output color component in the color image.

10. The method of claim 5 where the threshold is approximately 20 eight bit counts.

11. The method of claim 5 where the threshold is approximately 10 eight bit counts.

12. A scanner, comprising:

2           a photo-sensor array for converting an image into an electrical signal;

4           an A-to-D converter to convert the electrical signal into raw digital

4           data;

6           a tone map for transforming the raw digital data into corrected digital

6           data;

the scanner configured to output the corrected digital data only when  
8 the raw digital data is greater than a pre-selected value.

13. A method of processing data contained in an array of pixels, comprising:

2 defining a threshold;  
4 defining a range around the threshold, the range having a top end and a  
bottom end;  
6 defining a tone map;  
8 (a) reading a color component of a pixel;  
10 (b) applying the tone map to the color component when the color  
component is above the top of the high end;  
12 (c) modifying the color component by interpolation when the color  
component is below the top end of the high range and above the bottom end of  
the low range, and;  
otherwise preserving the color component.

14. The method of claim 12 further comprising:

2 repeating steps (a) through (c) for each pixel in the array.

15. The method of claim 13 where steps (a) through (c) are repeated to create a new  
2 output color component for each of the color components in the color image.

16. The method of claim 14 where a different threshold is used to create each output  
2 color component in the color image.

17. A camera, comprising:

2 a photo sensor;  
4 a lens system that forms an image on the photo sensor;  
a tone map for mapping image data;  
6 a processor configured to map image data only when the image data exceeds a predetermined value.

18. A camera, comprising:

2 a photo sensor;  
4 a lens system that forms an image on the photo sensor;  
a means for mapping the image data;  
6 a processor configured to map the image data only when the image data exceeds a predetermined value.